

Supplementary Table 1. Location and environmental parameters for each station of the cruise. All the parameters are averaged from 5 to 200 m depth. LT is location time. The parameter Ω_{ar} is calculated. Values with an * are from station 18.

Station code	Station name	Day (dd/mm/yyyy)	Time (LT)	Latitude	Longitude	Volume (m ³)	Temperature (°C)	Salinity PSU	Fluorescence (µg L ⁻¹)	pH	Ω_{ar}	NO ₃	PO ₄	O ₂	pCO ₂
1	Atlantic	5/2/2013	00:03	36.0348	-6.6421	1016	16.39	36.19	0.36	8.06	2.70	1.92	0.13	226.03	393.96
2	Gibraltar	5/3/2013	12:47	35.9505	-5.5613	537	14.68	37.20	0.11	8.06	2.68	4.18	0.22	191.05	407.19
3	Alboran Sea	5/4/2013	20:55	36.1213	-4.1853	1403	15.43	36.97	0.45	8.09	2.87	2.08	0.13	214.19	369.09
5	Southern Alguero-Balear	5/8/2013	10:44	38.5233	5.5453	459	14.60	37.89	0.18	8.10	2.97	1.22	0.05	224.38	368.25
6	Strait of Sardine	5/9/2013	20:34	38.2656	8.6873	423	14.60	38.13	0.19	8.08	2.96	2.30	0.15	212.38	389.51
7a	Strait of Sicily	5/11/2013	00:20	37.0381	13.1857	447	15.40	38.09	0.23	8.09	3.07	1.35	0.06	216.91	375.76
9	Ionian Sea	5/12/2013	11:31	35.1145	18.294	425	16.64	38.75	0.13	8.12	3.44	0.41	0.02	227.67	354.28
10	Southern Crete	5/14/2013	14:40	33.813	24.2664	320	16.70	39.04	0.12	8.11	3.43	1.03	0.03	211.61	368.15
11	Eastern Basin	5/15/2013	13:01	33.5025	28.0015	372	17.73	38.85	0.10	8.12	3.61	0.58	0.02	224.16	361.25
12	Nile Delta	5/17/2013	03:14	33.2155	32.002	364	18.18	39.06	0.15	8.11	3.56	0.50	0.03	225.32	369.06
13	Lebanon	5/17/2013	16:15	34.2242	33.225	397	17.80	38.96	0.16	8.11	3.53	0.40	0.03	222.81	370.02
14	Antikythera Strait	5/21/2013	6:06	35.6958	23.4219	334	16.90	39.06	0.12	8.13	3.57	0.37	0.03	229.53	347.83
15	Eastern Ionian Sea	5/21/2013	21:25	36.4022	20.8081	391	16.52	39.05	0.15	8.12	3.40	1.08	0.04	228.12	352.18
17	Adriatic Sea	5/23/2013	21:09	41.8364	17.2546	440	16.34	38.82	0.16	8.13	3.50	0.90	0.03	231.22	348.93
16	Otranto Strait	5/24/2013	23:49	40.2342	18.8377	385	15.14	38.81	0.20	8.10	3.22	1.70	0.05	229.39	379.20
16-18	Between Otranto Strait and Central Ionian	5/25/2013	09:30	37.7067	18.5186	426	16.15*	38.88*	0.14*	8.11*	3.40*	1.97*	0.06*	216.01*	359.78*
19	Tyrrhenian Sea	5/27/2013	12:30	39.8294	12.5157	391	15.05	38.29	0.18	8.12	3.21	1.60	0.07	212.45	354.12
20	Northern Alguero-Balear	5/29/2013	20:00	41.3171	5.6657	356	14.08	38.39	0.36	8.14	3.24	4.01	0.20	208.91	343.27
21	Central Alguero-Balear	5/30/2013	10:30	40.0736	5.9474	392	14.51	37.88	0.17	8.11	3.03	0.81	0.04	233.14	362.91
22	Catalano-Balear	5/31/2013	13:55	40.9508	3.3193	339	14.62	38.39	0.25	8.13	3.23	3.55	0.17	210.47	348.79

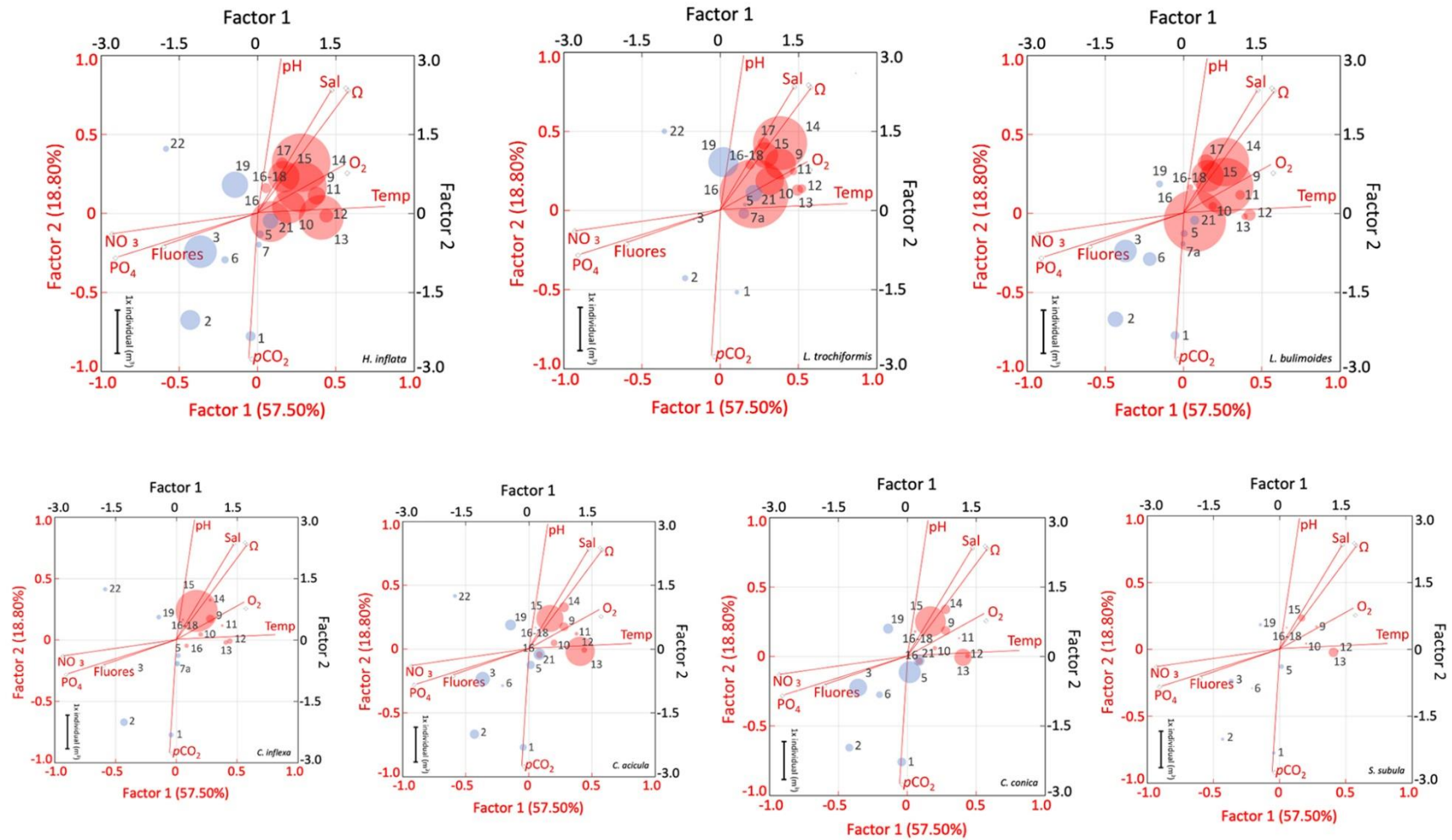
Supplementary Table 2. Relative and absolute abundance of pteropods collected from BONGO nets. Western stations are 1-7a, 19-22 and Eastern stations are 9-‘16-18’.

Absolute abundance (individuals m ⁻³)												
Station	Station	<i>H. inflata</i>	<i>L. trochiformis</i>	<i>L. bulimoides</i>	Other <i>Limacinidae</i>	<i>C. inflexa</i>	Other <i>Cavoliniidae</i>	<i>C. acicula</i>	<i>C. conica</i>	<i>S. subula</i>	Other <i>Creseidae</i>	Total
Atlantic	1	0.049	0.010	0.038	0.002	0.022	0.000	0.037	0.049	0.010	0.002	0.219
Gibraltar	2	0.196	0.019	0.119	0.006	0.047	0.002	0.065	0.039	0.007	0.002	0.501
Alboran Sea	3	0.523	0.003	0.249	0.008	0.007	0.001	0.154	0.200	0.019	0.011	1.176
S. central W. Med.	5	0.031	0.007	0.026	0.002	0.020	0.002	0.052	0.305	0.015	0.004	0.464
Str. of Sardinia	6	0.026	0.000	0.092	0.007	0.000	0.000	0.007	0.028	0.002	0.002	0.165
Str. of Sicily	7a	0.018	0.056	0.013	0.002	0.022	0.002	0.000	0.000	0.000	0.000	0.114
S. of Ionian Sea	9	1.278	0.475	1.584	0.099	0.056	0.000	0.061	0.054	0.005	0.002	3.614
Off S. Crete	10	0.550	0.394	0.034	0.025	0.019	0.000	0.034	0.013	0.003	0.003	1.075
Eastern Basin	11	0.153	0.027	0.046	0.000	0.005	0.000	0.011	0.003	0.000	0.003	0.247
Off Nile delta	12	0.093	0.038	0.069	0.003	0.025	0.000	0.025	0.014	0.003	0.003	0.272
Off Lebanon	13	0.987	0.063	0.020	0.013	0.018	0.000	0.645	0.191	0.063	0.010	2.010
Antikythera Str.	14	1.677	1.428	1.162	0.042	0.009	0.000	0.072	0.057	0.000	0.000	4.446
E. Ionian Sea	15	0.488	0.327	0.504	0.041	1.440	0.000	0.552	0.601	0.036	0.013	4.003
Otranto Str.	16	0.818	2.353	1.894	0.002	0.016	0.000	0.036	0.034	0.000	0.000	0.270
Adriatic Sea	17	0.066	0.070	0.132	0.052	0.000	0.003	0.000	0.000	0.000	0.000	5.205
N. Ionian Sea	16-18	0.049	0.040	0.019	0.002	0.005	0.000	0.002	0.005	0.002	0.000	0.124
Tyrrhenian Sea	19	0.340	0.445	0.023	0.000	0.018	0.000	0.090	0.064	0.008	0.003	0.990
N-central W. Med.	20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Central W. Med.	21	0.120	0.138	0.041	0.000	0.000	0.000	0.102	0.077	0.000	0.003	0.480
Catalano-Balear	22	0.018	0.015	0.000	0.000	0.015	0.000	0.012	0.000	0.000	0.000	0.059
Relative abundance (%)												
Station	Station	<i>H. inflata</i>	<i>L. trochiformis</i>	<i>L. bulimoides</i>	Other <i>Limacinidae</i>	<i>C. inflexa</i>	Other <i>Cavoliniidae</i>	<i>C. acicula</i>	<i>C. conica</i>	<i>S. subula</i>	Other <i>Creseidae</i>	Total
Atlantic	1	22.4	4.5	17.5	0.9	9.9	0.0	17.0	22.4	4.5	0.9	0.9
Gibraltar	2	39.0	3.7	23.8	1.1	9.3	0.4	13.0	7.8	1.5	0.4	2.0
Alboran Sea	3	44.5	0.2	21.2	0.7	0.6	0.1	13.1	17.0	1.6	1.0	4.6

S. central W. Med.	5	6.6	1.4	5.6	0.5	4.2	0.5	11.3	65.7	3.3	0.9	1.8
Str. of Sardinia	6	15.7	0.0	55.7	4.3	0.0	0.0	4.3	17.1	1.4	1.4	0.7
Str. of Sicily	7a	15.7	49.0	11.8	2.0	19.6	2.0	0.0	0.0	0.0	0.0	0.4
S. of Ionian Sea	9	35.4	13.2	43.8	2.7	1.6	0.0	1.7	1.5	0.1	0.1	14.2
Off S. Crete	10	51.2	36.6	3.2	2.3	1.7	0.0	3.2	1.2	0.3	0.3	4.2
Eastern Basin	11	62.0	10.9	18.5	0.0	2.2	0.0	4.3	1.1	0.0	1.1	1.0
Off Nile delta	12	34.3	14.1	25.3	1.0	9.1	0.0	9.1	5.1	1.0	1.0	1.1
Off Lebanon	13	49.1	3.1	1.0	0.6	0.9	0.0	32.1	9.5	3.1	0.5	7.9
Antikythera Str.	14	37.7	32.1	26.1	0.9	0.2	0.0	1.6	1.3	0.0	0.0	17.5
E. Ionian Sea	15	12.2	8.2	12.6	1.0	36.0	0.0	13.8	15.0	0.9	0.3	15.7
Otranto Str.	16	15.7	45.2	36.4	1.0	0.3	0.0	0.7	0.6	0.0	0.0	20.5
Adriatic Sea	17	24.4	26.1	48.7	0.8	0.0	0.0	0.0	0.0	0.0	0.0	1.1
N. Ionian Sea	16-18	39.6	32.1	15.1	1.9	3.8	0.0	1.9	3.8	1.9	0.0	0.5
Tyrrhenian Sea	19	34.4	45.0	2.3	0.0	1.8	0.0	9.0	6.5	0.8	0.3	3.9
N-central W. Med.	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Central W. Med.	21	25.0	28.7	8.5	0.0	0.0	0.0	21.3	16.0	0.0	0.5	1.9
Catalano-Balear	22	30	25	0	0	25	0	20	0	0	0	0.2
Western Stations	1-7a, 19-22	31.7	16.6	14.5	0.6	3.6	0.2	12.5	18.3	1.5	0.6	16.4
Eastern Stations	9-'16-18'	29.0	24.5	25.7	1.3	7.5	0.0	6.8	4.6	0.5	0.2	83.6
All Stations	1-22	29.4	23.2	23.8	1.2	6.8	0.0	7.7	6.8	0.7	0.2	100

Supplementary Table 3. Loadings of the environmental parameters of the PCA and Pearson's correlation coefficients for the relationships between the environmental parameters and PCA factors as well as correlation coefficients for total abundance and the abundances of each species with the environment parameters and PCA factors. The binary logistic regression model uses two groups (low abundance and high abundance) to predict the odds of a station having low abundance (Exp[B]) with 90% confidence. Kruskal-Wallis Test indicates significant differences in total and individual species abundance between western and eastern stations. OTMC = Omnibus test for model coefficients. Nagelkerk R-square is used. ^ indicates significance at the 0.1 level, * at the 0.05 level and ** 0.01 level.

PCA results			Abundances							Binary Logistic Regression Model						
										90% C.I. for Exp(B)						
Factor 1	Factor 2		<i>H. inflata</i>	<i>L. trochiformis</i>	<i>L. bulimoides</i>	<i>C. inflexa</i>	<i>C. acicula</i>	<i>C. conica</i>	<i>S. subula</i>	Total	Sig.	Exp(B)	(Upper)	(Lower)	OTMC	R-square
Factor 1	1		.459*	.496*	.492*	.224	.184	.204	.024	.562**	.088^	.897	.807	.996	.095^	.288
Factor 2		1	.231	.306	.246	.129	.005	.046	-.121	.289	.775	1.02	.914	1.137		
Environmental Factors																
Temperature	.678	-.449	.470*	.224	.258	.133	.342	.067	.32	.378^	.062^	.405	.183	.898	.036*	.271
Salinity	.852	.305	.359	.325	.278	.207	.191	.024	.039	.38^	.195	.306	.068	1.377	.125	.153
pH	.746	.653	.372	.439^	.381^	.132	.073	.021	-.09	.431^	.189	0	0	25484.594	.131	.149
Qar	.933	.215	.482*	.414^	.373	.134	.21	-.02	.079	.465*	.087^	.02	0	.859	.047*	.246
Fluores	-.575	.179	-.293	-.271	-.245	-.139	-.107	-.002	.015	-.306	.648	12.228	.001	101345.651	.638	.015
NO ₃	-.804	.514	-.513*	-.348	-.368	-.106	-.287	-.206	-.221	-.474*	.08*	4.616	1.097	19.433	.018*	.336
PO ₄	-.882	.374	-.439^	-.365	-.346	-.148	-.241	-.183	-.152	-.451*	.134	9.09E+08	.135	6.12702E+18	.048*	.245
O ₂	.669	-.333	.328	.374	.424^	.181	.184	.236	.08	.452*	.23	.931	.844	1.027	.472	.035
pCO ₂	-.643	-.662	-.363	-.428^	-.39^	-.186	-.09	-.132	.063	-.449*	.155	1.057	.991	1.128	.104	.170
N	20	20	19	18	18	16	17	16	20	12	20	20	20	20	20	20
Kruskal-Wallis test																
		$\chi^2(2)$	4.17	6.61	7.01	3.29	.24	.01	.04	.06						
		p-value	.04*	.01*	.01*	.07^	.62	.94	.85	.82						



Supplementary Figure 1. PCA graphs of environmental factors overlaid with absolute abundance values on station scores of **A** *L. inflata*, **B** *L. trochiformis*, **C** *L. bulimoides*, **D** *C. inflexa*, **E** *C. acicula*, **F** *C. conica* and **G** *S. subula*. Stations in blue indicate western Mediterranean stations (1-7a and 19-22) and stations in red indicate eastern stations (9-16-18').